

HICKAM FIELD, PRACTICE BOMB LOADING SHED
(Hickam Air Force Base, Pacific Air Forces (PACAF), 15th Airlift Wing
(15AW))
(Building No. 4027)
Bomb Storage Road near the intersection of Moffet and Kamakahi
Streets
Honolulu
Honolulu County
Hawaii

HABS HI-164-AV
HI-164-AV

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

FIELD RECORDS

HISTORIC AMERICAN BUILDINGS SURVEY
PACIFIC WEST REGIONAL OFFICE
National Park Service
U.S. Department of the Interior
1111 Jackson Street, Suite 700
Oakland, CA 94607

HISTORIC AMERICAN BUILDINGS SURVEY

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Location: On Bomb Storage Road, near the intersection of Moffet and Kamakahi Streets, City and County of Honolulu, Hawai'i

U.S.G.S. 7.5 minute series topographic map (Scale-1:24,000), Pearl Harbor Quadrangle, 1999.
Universal Transverse Mercator (UTM) coordinates:
04.610400.2359160

Present Owner: United States Air Force

Present Occupant: 15th Airlift Wing

Present Use: Storage

Significance: Building 4027 at Hickam Air Force Base is significant under National Register Criterion A as a component of the build-up to World War II. Building 4027 is an example of a Practice Bomb Loading structure, built as an early component of the Hickam Air Field, which was designated at that time as a Bomber Command. The building's low-sloped gambrel roof is a distinctive form which also qualifies it under Criterion C. Building 4027 is one of the few known remaining military examples of this architectural type in Hawai'i, although other examples are known nationwide.

PART I. HISTORICAL INFORMATION

A. PHYSICAL HISTORY

1. Date of erection: 1937
2. Architect: Department of the Quartermaster, Fort Shafter-United States Army, Territory of Hawai'i.
3. Original and subsequent owners: United States Army; United States Air Force.
4. Builder, contractor, suppliers: Builder/contractor unknown; source of supplies unknown.
5. Original plans and construction: Two drawings (#397-2813 & #397-2814), dated January 25, 1937, show the original construction plans. Original appearance included a rectangular plan shape; steel frame with steel trusses; 10 bays, with 2

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bays, with no doors, functioning as entryways on the south side; Asbestos Protected Metal (APM) siding; and a gambrel roof made of APM panels.

6. Alterations and additions: Over the course of 70 years, alterations to Building 4027 were relatively minimal, and the building largely retains its integrity. Alterations include added window and door apertures on exterior and interior walls and new interior walls to form separate rooms within the Toolroom area.

Additions include a shed-roof wood frame construction addition on the southwest corner of the building, which was constructed to house a toilet room and remains extant. The Hickam Air Force Base Engineering Plan File Library's index card for Building 4027 shows a drawing number of H-100/94 for the Toilet Room Addition, however the actual drawing was not located. Further investigation reveals that the Toilet Room Addition project dates from October of 1941, only four years after the building was erected.

B. HISTORICAL CONTEXT

1. Early Site History

Hickam Air Force Base is situated within the two geographical areas, or *'ahupua'a*,¹ of Halawa and Moanalua on the island of O'ahu. Halawa and Moanalua *'ahupua'a* are in turn part of two larger districts, known as *mokus*,² with Halawa a part of the *moku* of 'Ewa (western portion) and Moanalua a part of the *moku* of Kona (eastern portion).

Much has been written about the Pre-historic period of human occupation of the islands of the Hawaiian Islands. Due to the absence of written records from this time, these conclusions have been based on archaeological evidence as well as the legends, chants, and oral traditions of the Native Hawaiian people that have passed from generation to generation. Both Halawa and Moanalua *'ahupua'a* were settled during what is called the Expansion Period (1100 to 1650 A.D.), one of four human development periods of the islands:

The Expansion Period (A.D. 1100-1650) is characterized by a dramatic population increase, complex agricultural schemes and elaborate religious structures. The level of economic, socio-political and religious development is indicative of a highly stratified society. Physical evidence of religion having become a central focus of Hawaiian culture is seen in archaeological features such as the various types of *heiau*. Subsistence patterns expanded to include dry land crop (taro) cultivation, large irrigation networks and aquaculture. Settlement patterns show increased habitation of more marginal, arid regions of the leeward valleys

¹ A type of Native Hawaiian land division usually extending from the uplands (mauka) to the sea (makai).

² A type of Native Hawaiian land division encompassing a large geographical subdivision of an island.

and coasts. Archaeological sites from this period include Makaha Valley, Barber's Point, Anahulu Valley and South Halawa Valley.³

In the year 1778, contact with people outside of the islands was established when British Sea Captain James Cook sailed to the Hawaiian Islands. His arrival marked the beginning of what would be significant changes to the health, socio-economic, religious, and cultural development of the Hawaiian people for the next 180 years. At the time of Cook's arrival, the islands were ruled by island chieftainships. Then in 1795, after a well strategized campaign of battles across the islands, an *ali'i* (chief) from the Big Island of Hawai'i known as Kamehameha The Great unified the eight main islands of the Hawaiian archipelago under his singular rule. The newly formed Kingdom of Hawai'i existed for the next approximately one-hundred years, until the islands were annexed by the United States of America in 1898.

During that century, and within an approximate thirty year period, two significant changes took place which affected Native Hawaiian self-identity and cultural development. In 1819, the abolishment of the *Kapu* system⁴ paved the way for Native Hawaiian acceptance of monotheism, or single god worship, with the arrival of American Protestant Missionaries in the following year. And in 1848 the concept of private land ownership was introduced with the Great *Mahele*.⁵ Within fifty years after this system for private land ownership was initiated, a group of American and European business leaders deposed the Ruler of the Kingdom (in 1893); established a provisional government (1893-1894); formed the Republic of Hawai'i (1894-1898); and in 1898 annexed the islands to the United States of America. Shortly thereafter in 1900 the Hawaiian Islands became a Territory of the United States and eventually the 50th State in 1959.

2. Military Development of Hickam Air Force Base

Military development in the Hawaiian Islands occurred as the result of the overall growth and continued strengthening of the United States as a military power and presence in the Pacific region in the first part of the twentieth century. Due to crowded conditions at Ford Island, where both the Army and the Navy shared facilities, in 1934 the Army Air Corps assigned the Quartermaster Corps the job of constructing a modern airdrome from tangled brush and sugar cane fields adjacent to Pearl Harbor on the island of O'ahu. The site selected consisted of 2,200 acres of ancient coral reef, covered by a thin layer of soil, located between O'ahu's Wai'anae and Ko'olau Mountain ranges, with the Pearl Harbor channel and naval reservation marking its western and northern boundaries, John Rodgers Airport to the east, and Fort Kamehameha on the south. Designated as a bomber base, the new airfield was dedicated on May 31, 1935 and named in

³ J.M. Waller Associates, Inc., *Final Integrated Cultural Resources Management Plan 2008-2012, Update for Hickam AFB, Hawai'i* (Honolulu, Hawai'i, 2008), 2-1.

⁴ The ancient system of laws and regulations that primarily governed interpersonal contacts and it restricted the use of certain land and ocean resources.

⁵ Hawaiian land redistribution act of 1848 which abolished the practice of semi-feudal land tenancy and allowed for private title land ownership.

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honor of Lt. Col. Horace Meek Hickam, a distinguished aviation pioneer who was killed in an aircraft accident on November 5, 1934, at Fort Crockett in Galveston, Texas.

While construction of Hickam Field was still in progress, on September 1, 1937 an initial group of 12 enlisted men and four airplanes, commanded by First Lieutenant Robert Warren, moved from the Army's primary aviation base at Luke Field on Ford Island to Hickam Field. This was more than a full year before the new airport was completed and officially activated on September 15, 1938. In 1939 the U.S. Army began its large scale exodus of aircraft and equipment from Luke Field to Hickam Field, becoming the principal army airfield in Hawai'i and the only one large enough to accommodate B-17 bomber aircraft.

3. Historic Function of Building 4027

The title blocks in the two earliest drawings from 1937 describe Building 4027 as a "Practice Bomb Loading Shed". It is unclear from the title block descriptions if the building served as a place where practice bombs were loaded onto equipment; if it was a place where there were practices or exercises involving loading live ordnance service bombs onto equipment; or if it was a place where practice or service bombs were assembled or created. However, due to the building's close proximity to the Magazine area, the original existence of a "Toolroom" with explosion-proof light fixtures, along with Hickam's original designation as a Bomber Command which included the 18th Bombardment Wing (Heavy),⁶ the building was most likely a place where service bombs were assembled, loaded, or where both functions were carried out. The loading of any type of bombs directly onto aircraft was unlikely, though, due to the small size of the building's two side entrance bays.⁷

These two early drawings have a signature date of January 25, 1937 by Captain Howard B. Nurse, who beginning in 1935 was the Constructing Quartermaster for the United States' Quartermaster Corps at Hickam Army Air Field. Captain Nurse was involved in initial base landscape and development plans, so it appears that Building 4027 was likely constructed either not long before or shortly after the Army moved its primary aviation headquarters from Luke Field on Ford Island to Hickam Army Air Field in September of 1937.

A January, 1942 General Plan map of Hickam Field shows two Bomb Storage Areas located in the vacant northeast portion of Hickam Field, adjacent to the paved runways and to the northeast and away from the Fort Kamehameha housing area. Within the rectangular shaped bomb storage area to the north there are four proposed structures shown. Two are labeled as "23", one as "24", and one as "29". A box inset on the map describes the number "23" structures as "Ordnance Repair Shops"; number "24" as "Quartermaster & Ordnance Paint & Oil Storage"; and number "29" as an "Ordnance Storehouse". The un-labeled

⁶ Leatrice R. Arakaki and John R. Kuborn, *7 December 1941 The Air Force Story* (Washington, D.C.: U.S. Government Printing Office, 1991), 17 & 21.

⁷ Ann Yoklavich, interview by author, Honolulu, HI, November 12, 2008.

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structure next to "29" appears to be Building 4027, also known as the "Practice Bomb Loading Shed" (from the 1937 original drawings) which is separated from the other ancillary bomb structures by a fence. Besides the seven magazines also located within the fenced-in area, it appears that Building 4027 was the only existing structure within this Bomb Storage area in 1942.

To the immediate south of this site was the second Bomb Storage Area. The 1942 plan shows that a total of 14 magazines were positioned along a railroad track, which looped through the area in a kidney shaped route. This track originated from the boathouse pier and ran along the perimeter of Hickam Field, where it ended at and then looped back from the second bomb storage area. This railroad track also serviced the other bomb storage area via two smaller extensions that branched off of the main line.

Subsequent drawings and maps reveal that the building's function changed over time. A General Layout Map of Hickam Field from August of 1946 shows that the number of magazines at the bomb storage area to the south had dwindled by this time, most likely a result of the end of the war. The same map also shows that the four proposed ancillary ordnance structures from the 1942 map had been built by 1946 and were assigned "T" (temporary) numbers. Building 4027 is referred to as "T-8". The other four structures' "T" numbers are difficult to read on the map. They all appear to have either a one or two-digit "T" number.

Twelve years later, the January of 1958 Master Plan Map confirms that the southern bomb storage area was by then gone and instead two one-way high-speed taxiways had been built in the former magazine area. The map also indicates future plans for an apron expansion to the runways. Building 4027 is shown, along with the four ancillary structures, but they are not labeled. The area around the building is described as "Horticulture" and "Nursery", along with "Magazine Area". A structure labeled "Horticulture Building" is shown immediately north of Building 4027. This building isn't on any of the earlier maps nor does it show up on any later maps.

A project location plan map inset on an April of 1972 drawing for a nearby building (Building 4008) shows that the four ancillary ordnance structures to the west of Building 4027 by then had changed from one or two-digit "T" numbers to four digit "T" numbers. Three years later a March of 1975 location map inset on a drawing for another building located nearby (Building 4002) shows that only three of the four ancillaries are still standing, with Building T-4023 gone. The September of 1976 Comprehensive Plan/Base Plan map for Hickam AFB shows only one of the four ancillary buildings as extant, along with Building 4027. The lone building remaining is the last of what was the two original Ordnance Repair Shops, the one located furthest to the west.

That the function of the building changed over time is apparent when viewing the set of U.S. Army Corps of Engineers' drawings from 1993, which describe the building as "D/AACG". It is not known for certain what this acronym represents; however, a search of an online Acronym database reveals that "D/AACG" could mean "Departure/Arrival Airfield Control Group", a possible later function of the facility since an airstrip is located nearby and due south of the building.

Other names for Building 4027 are listed in more recent documents, but it is unclear whether these functions were permanent or even accurate. The 1998 Cultural Resources Management Plan (CRMP) for Hickam AFB lists four names—as a “Traffic Management Facility”, “Admin”, “Hangar”, and as a “Warehouse”. Lastly, the 2006 Real Property Inventory and the 2008 Environmental Assessment-Demolition of Various Buildings at Hickam AFB both describe Building 4027 as “Special Ops”.

4. Construction & Alteration History

According to the first of two original drawings (#397-2813, 1937) Building 4027 was originally inventoried as “T-8-63” along with “T-2047” by the United States Army’s Quartermaster Corps. In the second of the two drawings (#397-2814, n.d.) Building 4027 is now labeled as “T-4027” along with the same “T-8-63” set of numbers. It appears that the building was labeled incorrectly (“T-2047” instead of “T-4027”) in the first drawing. The “Real Property Accountable Record” (as of 11 July 2006) for the building shows that on February 5, 1960 the building was officially renumbered from “T-8-63” to “T-4027”. “T-8-63” appears to be the original name for Building 4027, with the “T” portion of “T-4027” likely referring to the building as “Temporary”.

The drawings do not provide the name of the builder or the source of the construction materials, and the builder is simply referred to as “U.S. Contractor”. No drawings have been found for the building between January of 1937 and October of 1960, so it is unclear what changes occurred in this period.

There has also been speculation that Building 4027 was originally located, anytime from 1919 to 1939, at Luke Field on Ford Island, and that it was transferred to Hickam Field by the Army when the Navy assumed primary occupancy of Ford Island in 1939, as discussed below:

All of the Luke Field facilities that could possibly be moved were transported to Hickam. Even the gym and basketball court were dismantled and transferred in sections, as were supply huts, the noncommissioned officers’ club, chapel, theater, and housing units for enlisted personnel. They were loaded on the ferry *Manuwai*, carried across the Pearl Harbor channel, and turned over to crews at Hickam Field for reconstruction.⁸

However, although the Army moved many of its facilities from Luke Field to Hickam Field in 1939, there is no evidence to support that this was the case for Building 4027. No notations were found in the real property records or in the plans which identify the building materials as originating from a previous structure, on Ford Island or otherwise. Moreover, the construction date for Building 4027 is 1937, two years before most of the buildings from Ford Island were transferred to Hickam Field. The 1937 construction date is evidenced in a manuscript written in circa 1940, by Captain John A. Hunt, Constructing

⁸ Arakaki and Kuborn, *7 December 1941 The Air Force Story*, 19.

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Quartermaster of the U.S. Quartermaster Corps at that time, along with information on other buildings built early in Hickam Field's history:

By July, 1938, four (4) double hangars had been completed; that part of landing mat 'A' immediately fronting these hangars, and the paved concrete apron between hangars and landing mat were finished and in use. By that date, the Operations Building, Post railroad, mole, dock, boathouse and water storage system, bomb storage and other magazines, practice bomb loading building, entrance gateway and trunk roads had been constructed.⁹

The same source also details the cost of constructing Building 4027: "The principal projects completed prior to July 1, 1939 are as follows: (...) Ordnance Magazines, Bomb Loading Building \$85,342.46."¹⁰

For other known buildings both in Hawai'i and on the continental U.S. that share a similar truss and arch form to Building 4027, see "Comparative Study of Building 4027" in the Field Notes section at the end of this report.

A 1960 drawing shows that changes were made to the interior of the West end of the building, where the Tool Room was located. It shows that a new gypsum ceiling, wallboards, and two ceiling power exhaust fans (no longer extant) were added; a new service entrance (now covered up) was created on the south side of the building; two columns near the Toolroom doorway were relocated and two new columns were added in the middle of the room; and the doorway was enlarged and wooden double doors (still extant) and a new concrete ramp were installed. Additionally, a plot plan in one corner of the drawing shows the project location, and the area on base where Building 4027 is located is numbered as 63, which likely refers to Block 63, part of the title description of the building.

Drawings dated 1993 detail repairs and upgrades to Building 4027 at that time. They indicate that rooms were painted; new aluminum frame glass jalousie windows with security screens were installed; and the existing metal chain link swing gates at the two entrance bays were removed and new metal screen sliding gates with fixed Bird screens above them were added. With regard to the gates, the original 1937 plans show no doors or gates of any kind at the two entrance bays. One of the drawings has "No siding in this bay" marked at each of the entrances, while the rest of the building is covered in APM panels.

PART II. ARCHITECTURAL INFORMATION

A. GENERAL STATEMENT

1. Architectural character: A one-story utilitarian storehouse with a low-slope gambrel roof, having a basic rectangle plan and predominantly open interior.

⁹ John A. Hunt, *Hickam Field* (undated typed manuscript, ca. 1940), Hawai'i State Library.

¹⁰ Hunt, *Hickam Field* (undated typed manuscript, ca. 1940).

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2. Condition of fabric: Fair to poor. In general, all the exterior Asbestos Protected Metal (APM) corrugated panels are in fair to poor condition, with the roof panels in especially poor condition. One roof panel above the west-end entry bay on the South side of the building is flipped over, forming a gaping hole which exposes the interior of the building to the deteriorating effects of rain and sun. A tarp partially covers the north-west corner of the building, where the end wall panels meets the gabled panels, which indicates damage to this area. Many of the panels that form the side and end walls show rust damage and are corroded and peeling, especially on the edges near grade. The APM flashing that covers the I-beams at the four corners of the building also display extensive rust and corrosion damage.

However, the steel trusses on the interior of the building appear to be in good condition, and show little evidence of rust or corrosion. Similarly, the interior surfaces of the wall and roof panels are generally in good to fair condition.

B. DESCRIPTION OF EXTERIOR

1. Overall dimensions: One-story, with a rectangle plan; 200' long by 65'-11" wide; and made of ten 20' wide bays demarcated by twelve steel I columns or I beam posts. The shed-roof lean-to addition is roughly rectangular and measures about 14'-9" high where it attaches to the wall on the west side of the building. It extends approximately 10' along the wall and projects approximately 10' from the wall.
2. Foundations: Twenty-six steel I columns or I-beam posts frame the building. These columns are 12" wide and are secured in individual 1' x 2' concrete footings spaced at 20' intervals. The footings are submerged 26" below grade and protrude 6" above grade. The shed-roof addition has a concrete slab foundation.
3. Walls: Asbestos Protected Metal (APM) corrugated siding panels (with metal panels encased in asbestos on both sides). Two stacked rows of panels (which measure approximately 6' x 3') sheath the building's end walls. On the exterior, the panels cover the top of the concrete floor but only on the west end, where the former tool room was located. It covers almost the entire thickness of the concrete to the grade. APM flashing above the end walls separates the corrugated siding panels from the APM Gable panels above them. The two side walls consist primarily of 12' x 3' wide APM corrugated panels, except for two rows of the 6' tall panels on the two side walls at the west end of the building. Continuous eave screen vents, approximately 1' high, are along the top of the entire length of both side walls, just below the roof plate, with larger screen vents (described as "Bird Screens" in the April of 1993 drawings) above the metal screen sliding gates at the two entrance bays. The shed-roof addition is made of APM corrugated panels that extend to the top of the concrete slab foundation, with the siding panels cut to fill in under the shed roof.
4. Structural system, framing: Steel-frame, steel trusses. The shed-roof addition is wood-framed.
5. Openings:

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a. Doorways and doors: There are two entry bays on the south side of the building that each have a $\frac{3}{4}$ " No. 10 galvanized expanded metal screen sliding gate approximately 10' high, with 2' high fixed "bird screens" above them. The gates run along tracks affixed to a steel beam framing each entry from above. Four 8" round, rubber-covered steel wheels are attached to the bottom, a pair on the ends of each of the two gates.

Unpainted double doors made of approximately 5" wide wood boards with metal strap hinges are located on the south side, between the entry bay on the west end and a glass jalousie window. The drawing from 1960 tells us when this service entrance was created, but it is not certain if these are the original doors from that era. From the outside this access point is closed off from use with a metal chain link panel that is nailed to the wood frame door surround, and from the interior it is covered with a gypsum wall located in a small storage room within the Toolroom area. The shed-roof addition has no doorway leading into it from the outside.

b. Windows: There are seven windows on the building, clustered at its west end (two on the north side, four on the west end, and one on the south side). All the windows are wood-framed with red painted, deep-set sills approximately 5" deep. The windows are aluminum-framed glass jalousies, protected with No. 9, Type 1, Class 2 expanded metal zinc-coated security screens (painted red to match the window sills) and covered on the outside with aluminum-framed metal mesh screens. The shed-roof addition has two windows of similar construction, with one window on the north side and one on the south side of the structure.

6. Roof:

a. Shape, covering: The roof, following the form of the trusses, has a double-pitch, as a low-slope gambrel roof. The first slope has a "5:12 pitch" or 5 $\frac{1}{16}$ " of rise over 12" of run. The second slope, nearest the ridgeline, has a "3:12 pitch" or 3" of rise over 12" of run. Both slopes mirror one another on opposite rooflines. The roof is sheathed with APM corrugated panels, which are secured by steel straps to the structural members of the interior steel truss system that supports the roof.

The steel trusses are painted in red and in good condition. They follow the Howe truss form, where vertical members and diagonals slope up towards the center. Typically, the Howe truss has two steel chords, upper and lower (or principal members of the truss), which extend from end to end and are connected by the web, or a system of steel members that connect the upper and lower chords. Howe trusses can be either flat or pitched, and have vertical web members in tension and diagonal web members in compression.

There are nine metal lightning rods positioned along the ridge line of Building 4027. As a facility where bombs were present, safety measures from lightning strikes were needed. Magazine buildings, which stored ammunition and bombs, had elaborate lightning protection systems in place on their roofs, which were installed to prevent lightning induced fires.

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The ridge roll of Building 4027 is made of APM, and the lean-to addition has a shed-roof made of APM panels, along with one pipe vent.

b. Cornice, eaves: On the two sides of the building the eaves extend 12" beyond the outside face of the steel I columns, and there are no eaves on the ends of the building. The shed-roof addition has narrow eaves on the west end and on the north side and no eaves on the south side.

C. DESCRIPTION OF INTERIOR

1. Floor plan: The building has a large, rectangular floor plan with approximately 11,880 square feet of open space; 1,320 square feet of enclosed Toolroom/workshop/office space; and approximately 100 square feet of space in the shed-roof addition, for a total of 13,300 square feet.

Within the tool room area are three smaller rooms, all located on the southwest corner and accessed through single wooden doors for each. The smallest room, closest to the double entry doors, appears to be a small storage space. The room next door and in the southwestern area of the building is labeled as a women's restroom. Across from the women's restroom is the entry door for the men's restroom, which comprises the shed-roof addition that is attached to the southwest corner of the building.

2. Flooring: The floor is made of 6" of compacted coral, contained by metal screens on the exterior, with the surface covered by what appears to be a layer of painted concrete. The metal screens containing the compacted coral appear to be the same type of metal zinc-coated security screens used over the glass jalousie windows. The Toolroom floor is made of a 5" thick concrete slab on fill reinforced with 6"x 6" #9 wire mesh, and covered in squares of vinyl composition flooring. The floor of the addition has the same flooring applied to its concrete foundation.
3. Wall and ceiling finish: The walls and ceiling of the entire building are exposed APM corrugated panels. The Toolroom end of the building is finished with walls and a ceiling made of gypsum wallboard.
4. Openings:
 - a. Doorways and doors: The Toolroom wall has two entry points from the warehouse space; one on the south side and one on the north side. The south side entry area measures 10' x 9'-6" high, and has 1 3/4" thick, red painted tongue-and-groove double doors, with three 12" extra heavy T-Hinges on each door. The north side entry area is a single, approximately 7' high, split wooden door with a service counter.
 - b. Windows: There are nine glass jalousie windows with security screens, seven in the main structure and two in the shed-roof addition, described under the Description of Exterior section.
5. Mechanical equipment:
 - a. Heating, air conditioning, ventilation: Ventilation in the warehouse space is primarily provided by 1' tall eave screen vents that extend across the entire

length of both side walls. Natural cross ventilation is also provided by the approximately 6" open space between the bottom end of the North and South side wall panels and the compacted coral floor, as well as by the same open space between the bottom of the East end wall panels and the floor.

b. Lighting: The primary space has eighteen cylindrical, metal caged light fixtures (two rows of nine lights each, one row for each side of the building), as well as eighteen rectangular-shaped fluorescent light fixtures (two rows of nine lights each, one row for each side of the building). Caged lights are fixed near the ceiling and fluorescent lights hang below the steel trusses. The drawing from October of 1960 shows twenty-eight "explosion proof" receptacles (fluorescent light fixtures, two rows of fourteen each) were planned for the Toolroom area. Currently there are eighteen of those fixtures (two rows of nine) remaining. And a total of eight security lights, all positioned close under the eaves, are on the exterior of the building. Six lights are evenly spaced out along the entire length of the south side and two lights are on the north side, one at each corner.

c. Plumbing: Although not in the original plans for the building, at the southwest corner of the building are two rooms that were used as restrooms—one for ladies and one for men. The men's restroom is located in the shed-roof addition and has standard, utilitarian fixtures including a toilet, sink, shower, and a water heater. The women's restroom has the same style of fixtures, but only a toilet and a sink. The galvanized pipes for each room are visible along the exterior walls at the southwest corner of the building and the shed-roof addition.

D. SITE

1. General setting and orientation: Building 4027 is situated within a large, grassy field, with its length facing roughly north. To the north of the building is a recreational area, with tennis courts and an athletic field to the northwest. To the east is a Canine Security Training facility, located right after an adjoining roadway that runs between the facility and Building 4027. Immediately south of the building, right after the two asphalt paved driveways leading to the entrance bays, is the single lane, asphalt paved "Bomb Storage Road" and a parking lot. Just beyond the parking lot is a former Magazine area, covered with Kiawe trees and scrub brush. Further south is another recreational area and an airstrip, the former site of another earlier Magazine Bomb Storage Area.
2. Historic Landscape Design: There is no evidence of landscaping, either in the present or in the past. The original function of the building as a Practice Bomb Loading Shed likely dictated that landscaping was unnecessary, as a preventative fire safety measure. However, the two original drawings for Building 4027 were signed by Captain Howard B. Nurse, Constructing Quartermaster for the United States' Quartermaster Corps at Hickam Army Air Field beginning in 1935. Captain Nurse was involved in initial base landscape and development plans, and the two drawings, along with Captain John A. Hunt's manuscript, indicate that Building 4027 was a part of the early base development plans for Hickam Army Air Field.

3. Historic Districts: None. Located outside of the Hickam Field National Historic Landmark Area and of the Fort Kamehameha and the Hickam Historic Districts. Also located away from the five coastal batteries which comprise the Artillery District of Honolulu.

PART III. SOURCES OF INFORMATION

- A. Original Architectural Drawings: Original drawings and any drawings completed up to the present for building renovations by the U.S. Department of the Air Force are located at the Hickam Air Force Base Engineering Plan File Library, Hickam Air Force Base, Hawai'i.
- B. Bibliography (books/reports/articles)
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- 2000 *California Historic Military Buildings and Structures Inventory, Vol. III: Historic Context: Themes, Property Types, and Registration Requirements*. Prepared for United States Army Corps of Engineers, Sacramento District. JRP Historical Consulting Services: Davis, California.

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C. Bibliography (maps and photographs)

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D. Likely Sources Not Yet Investigated

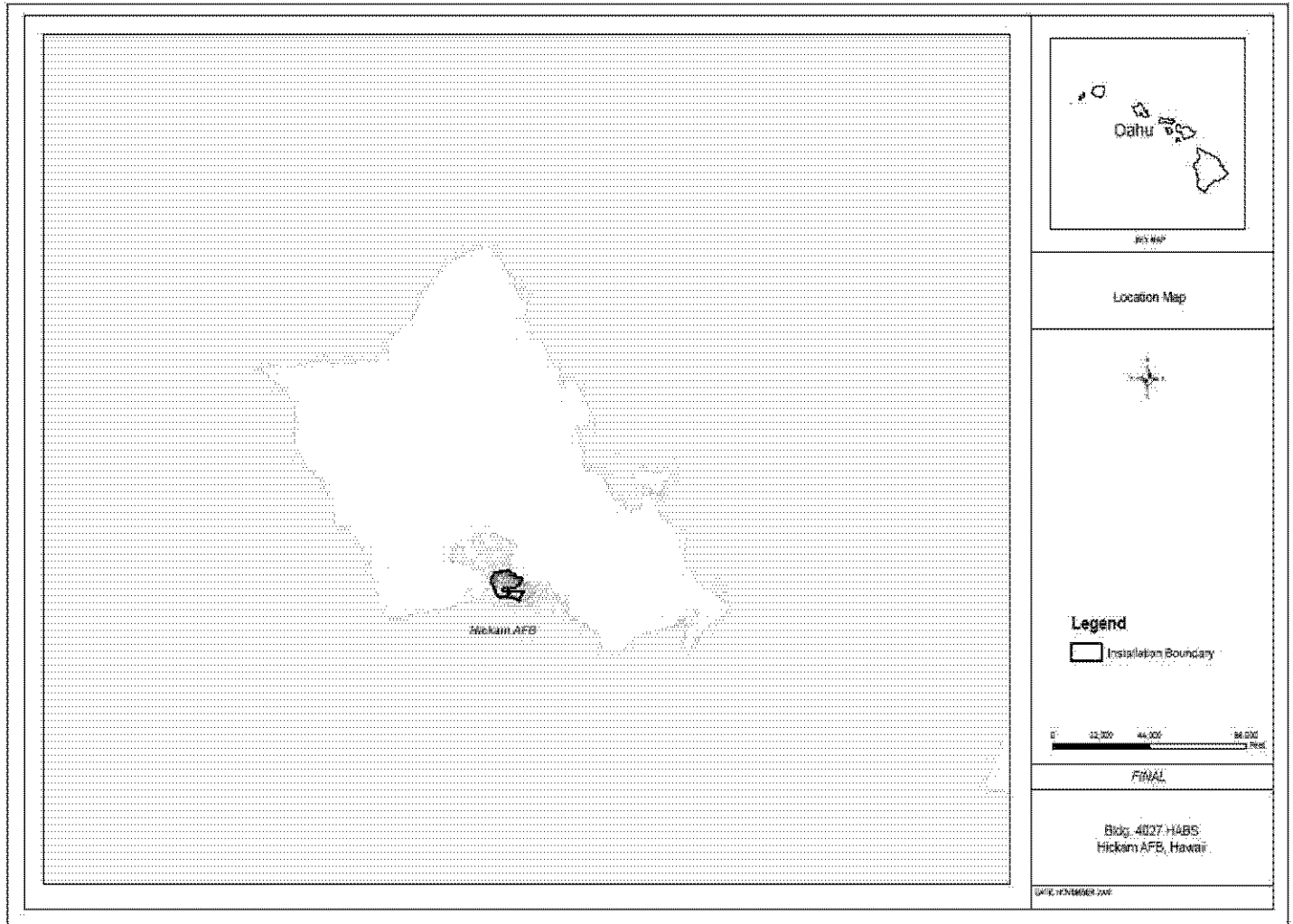
Research for this report was gathered from sources previously used in similar investigations and identified in the bibliography. The Hickam Air Force Base Engineering Plan File Library, Hickam Air Force Base, Hawai'i was also consulted. It is possible that additional information on the subjects covered in this report could also be researched at the Bishop Museum, in Honolulu, Hawai'i; the Arizona Memorial Library, at Pearl Harbor, Hawai'i; and at Hamilton Library of the University of Hawai'i, in Honolulu, Hawai'i.

PART IV. PROJECT INFORMATION

This report was prepared in accordance with the *Memorandum of Agreement (MOA) Between 15th Airlift Wing and the Hawai'i State Historic Preservation Officer*, dated September 2008. This report was undertaken following the Stipulations of the National Park Service (NPS) for Building 4027, where HABS documentation is required (per item IIG of the Mitigation specified in the MOA). The photographic documentation was undertaken in October 2008 by David Franzen, Photographer. Monica Bacon, Architectural Historian at Mason Architects, Inc., conducted the field work (October 2008 – November 2008), undertook the research, and created the written documentation for this report.

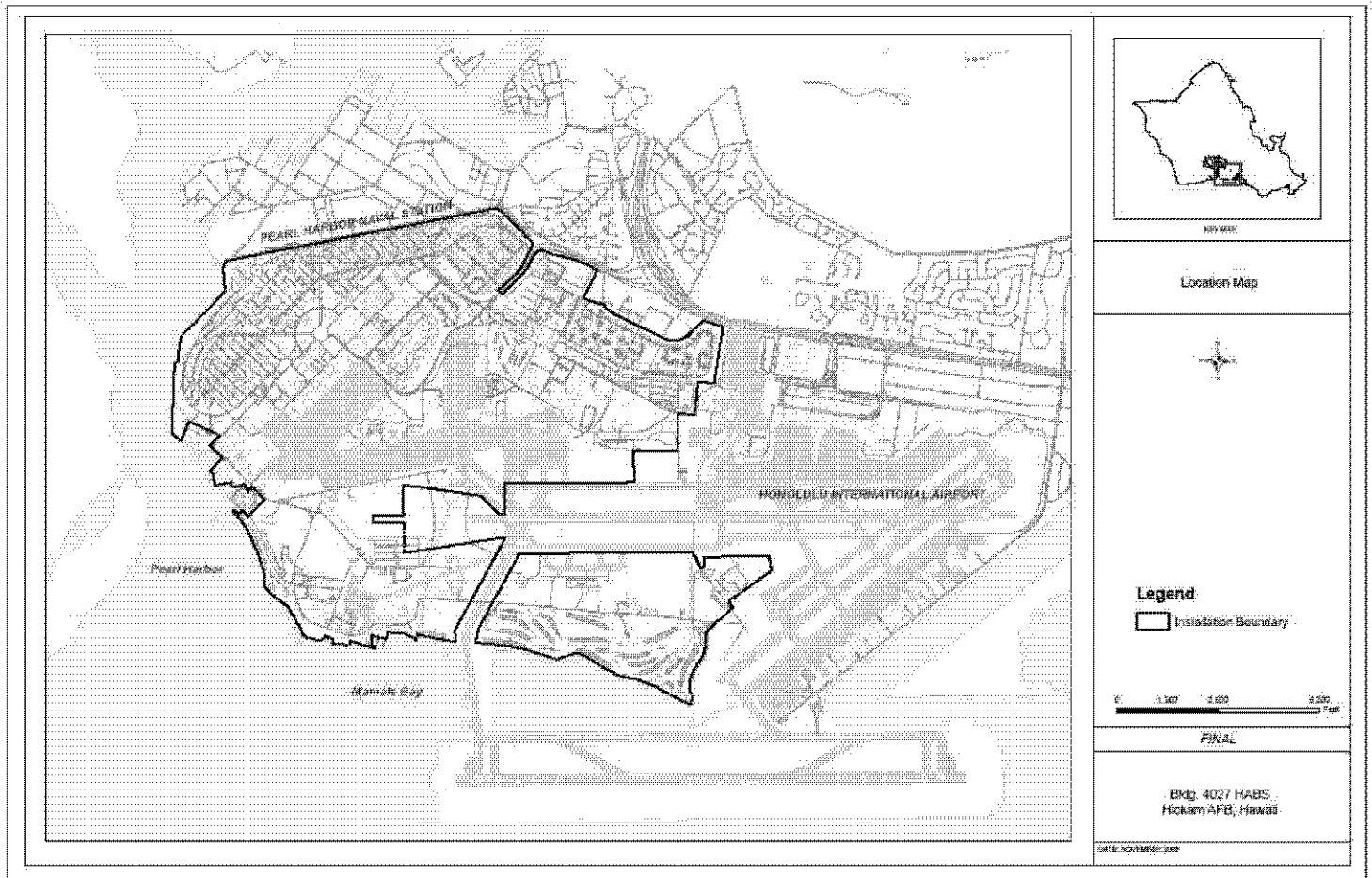
HICKAM FIELD, PRACTICE BOMB LOADING SHED
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Location Map, State of Hawai'i, Island of O'ahu, Hickam AFB



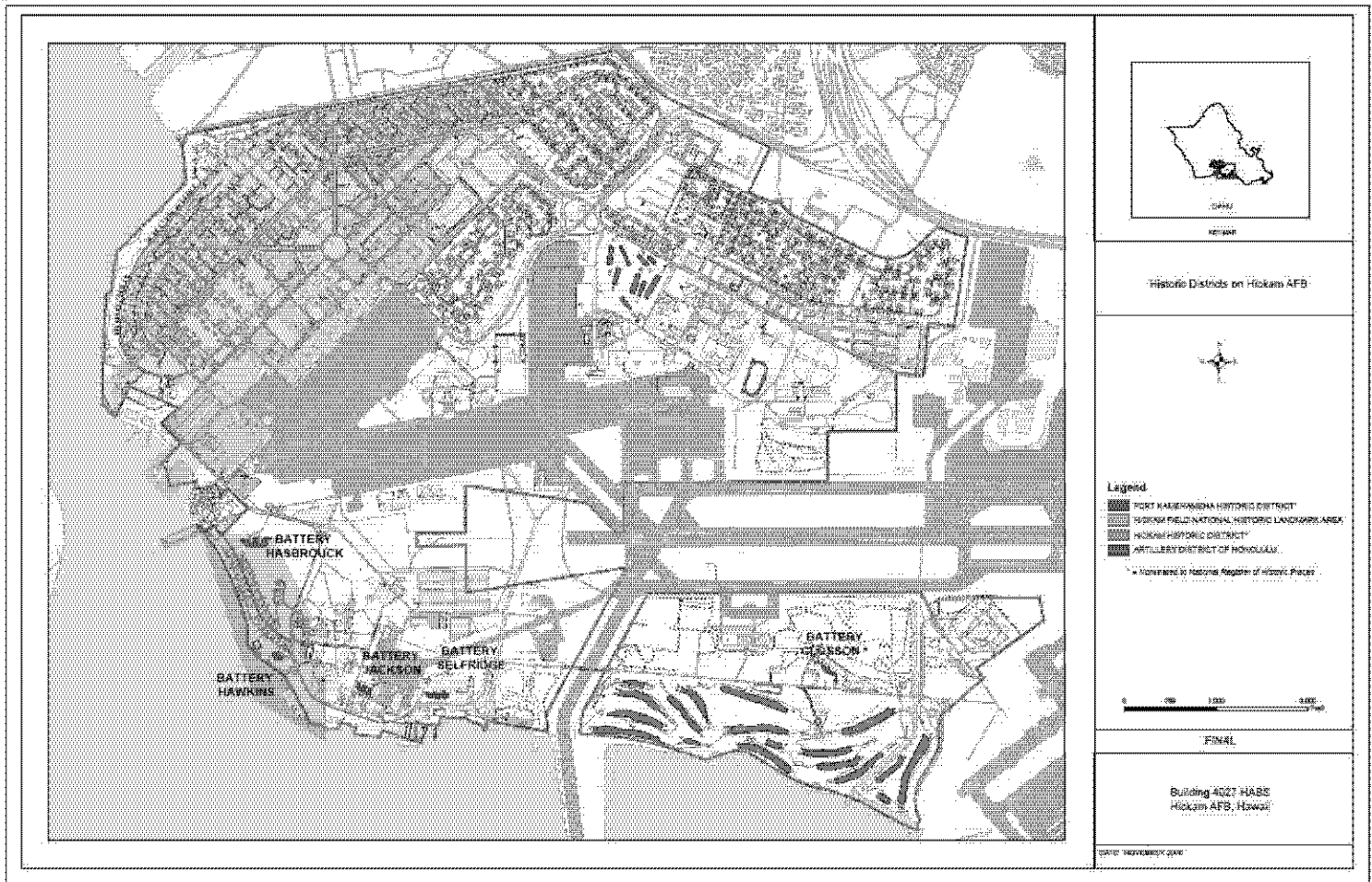
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Location Map, Island of O'ahu, Hickam AFB



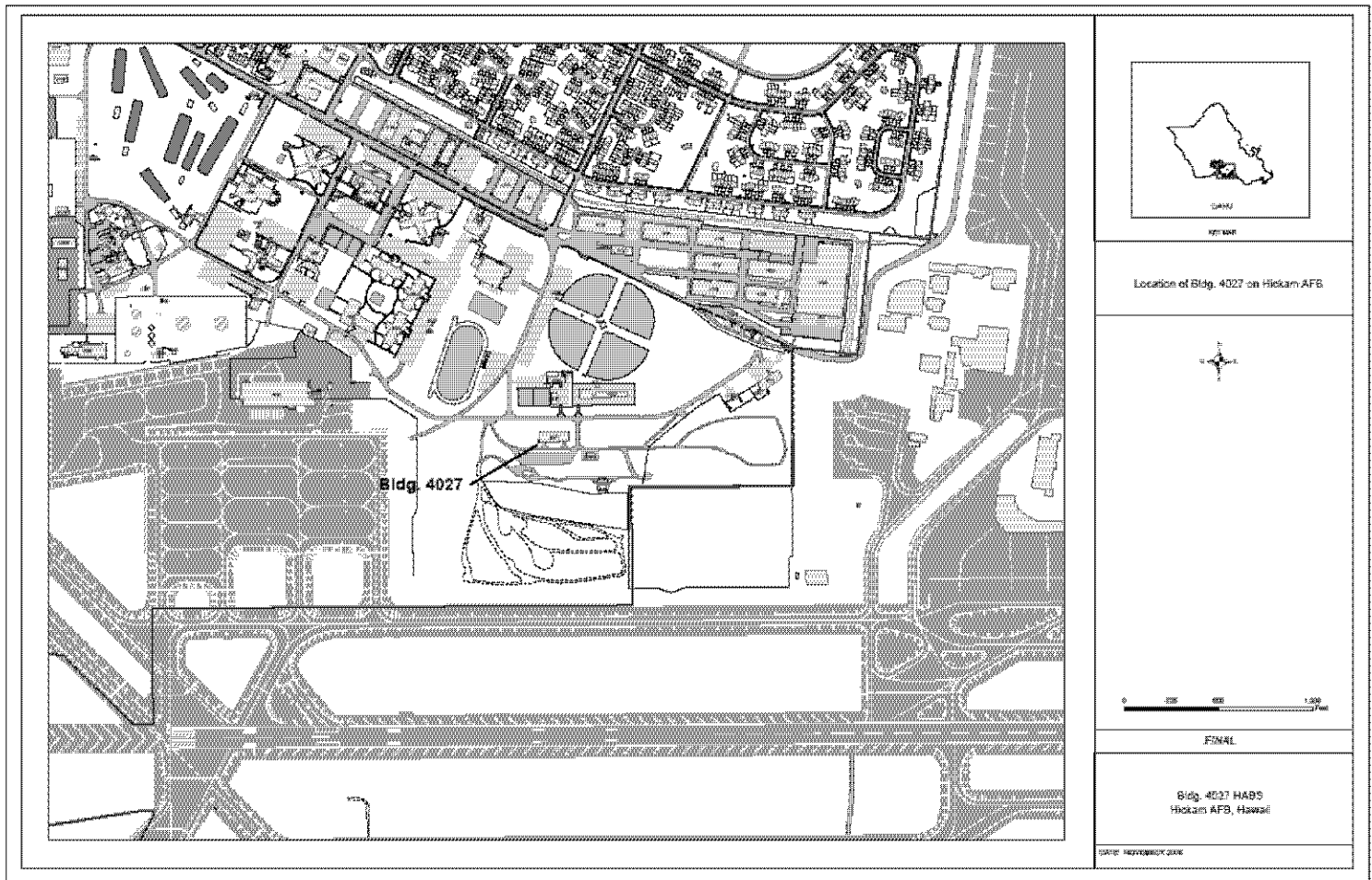
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Location Map, Hickam AFB Historic Districts & National Historic Landmark Area



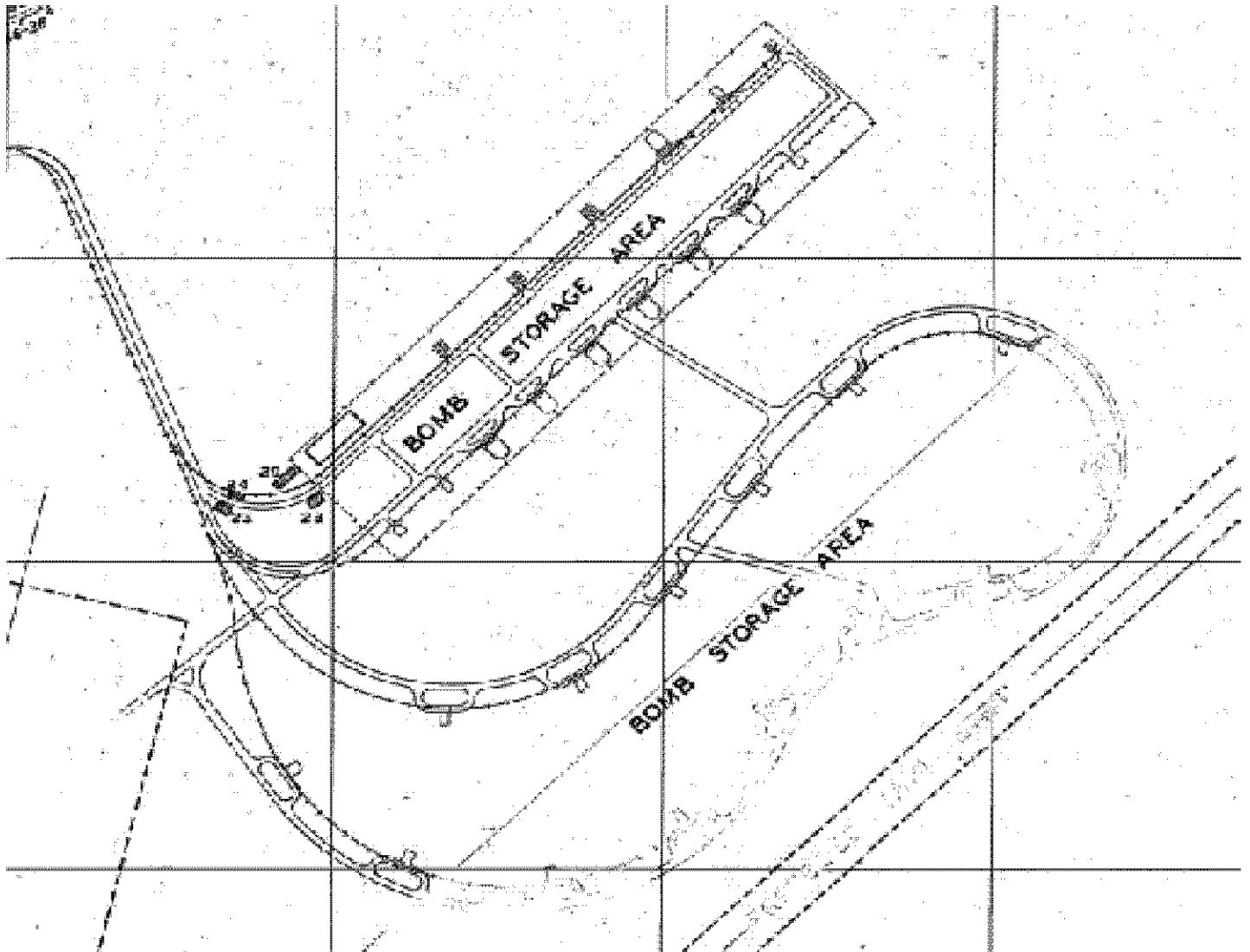
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Location Map, Hickam AFB, Building 4027



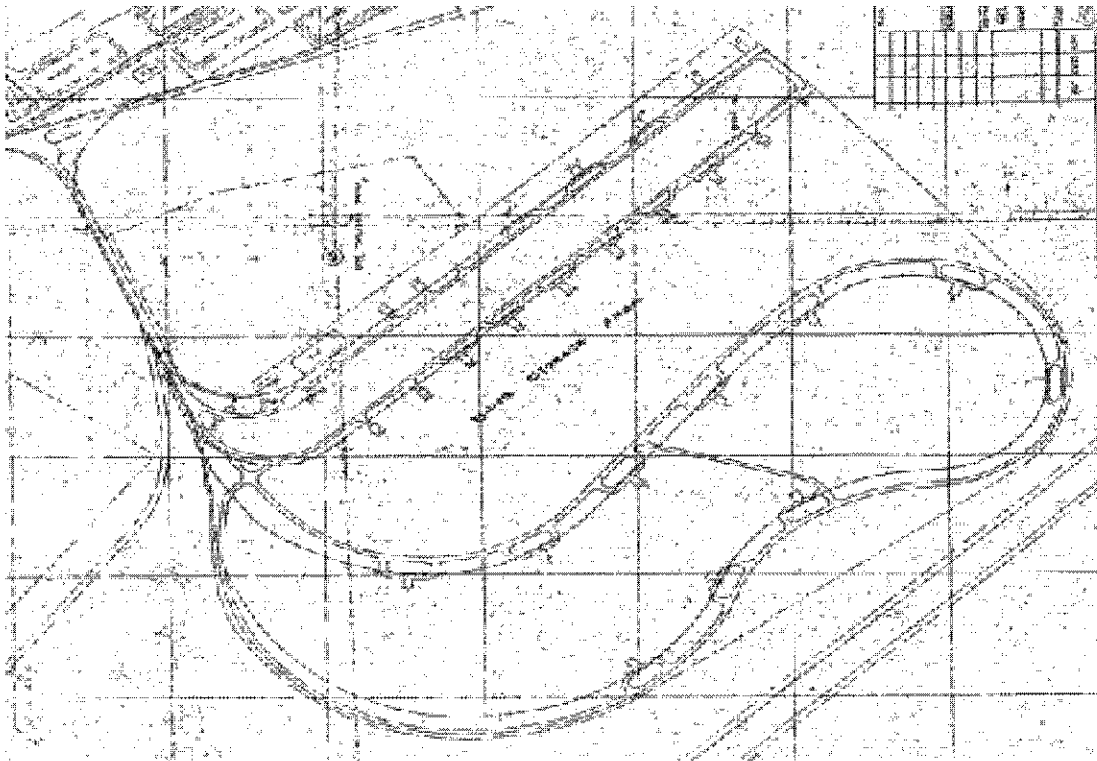
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Map-Close-up, Hickam AFB, Bomb Storage Areas (Portion of General Plan Map, Hickam Field, Oahu, T.H., January, 1942)



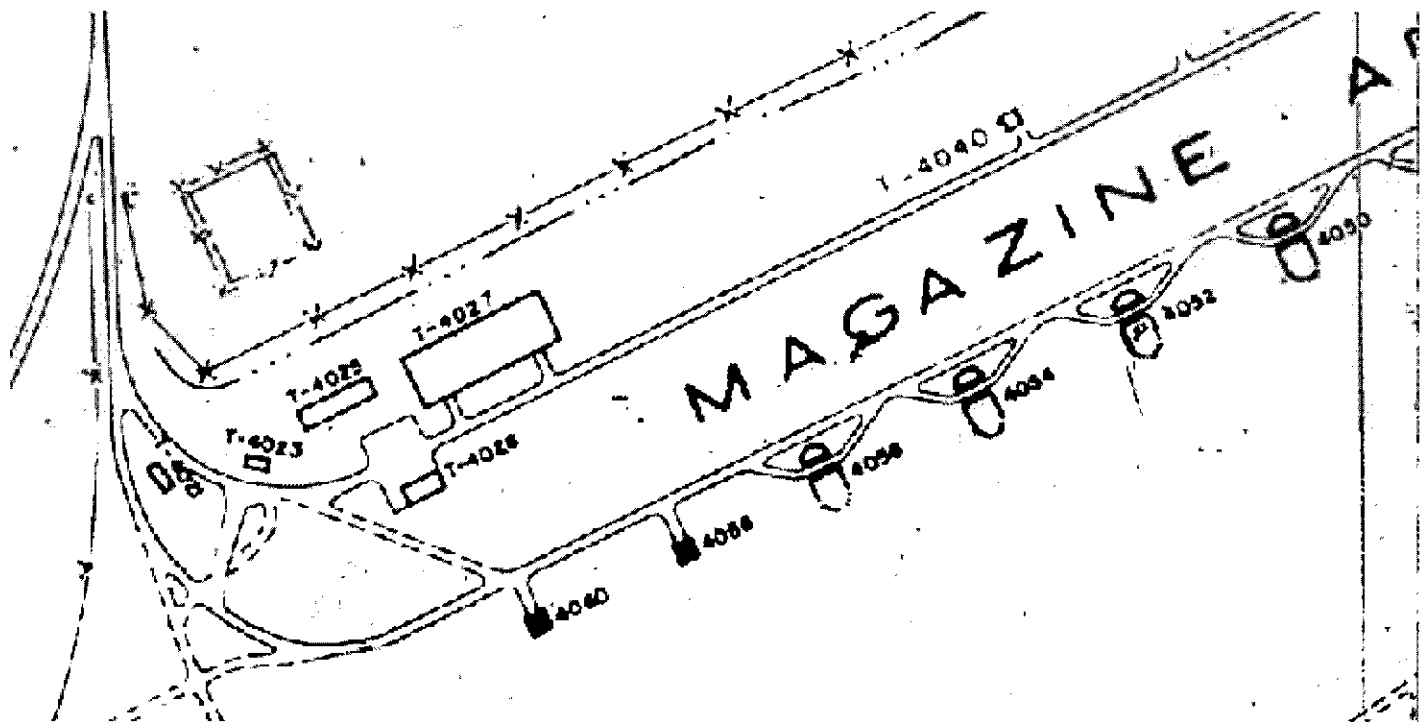
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Map-Close-up, Hickam AFB, Bomb Storage Area (Portion of General Layout Map of
Hickam Field, August, 1946)



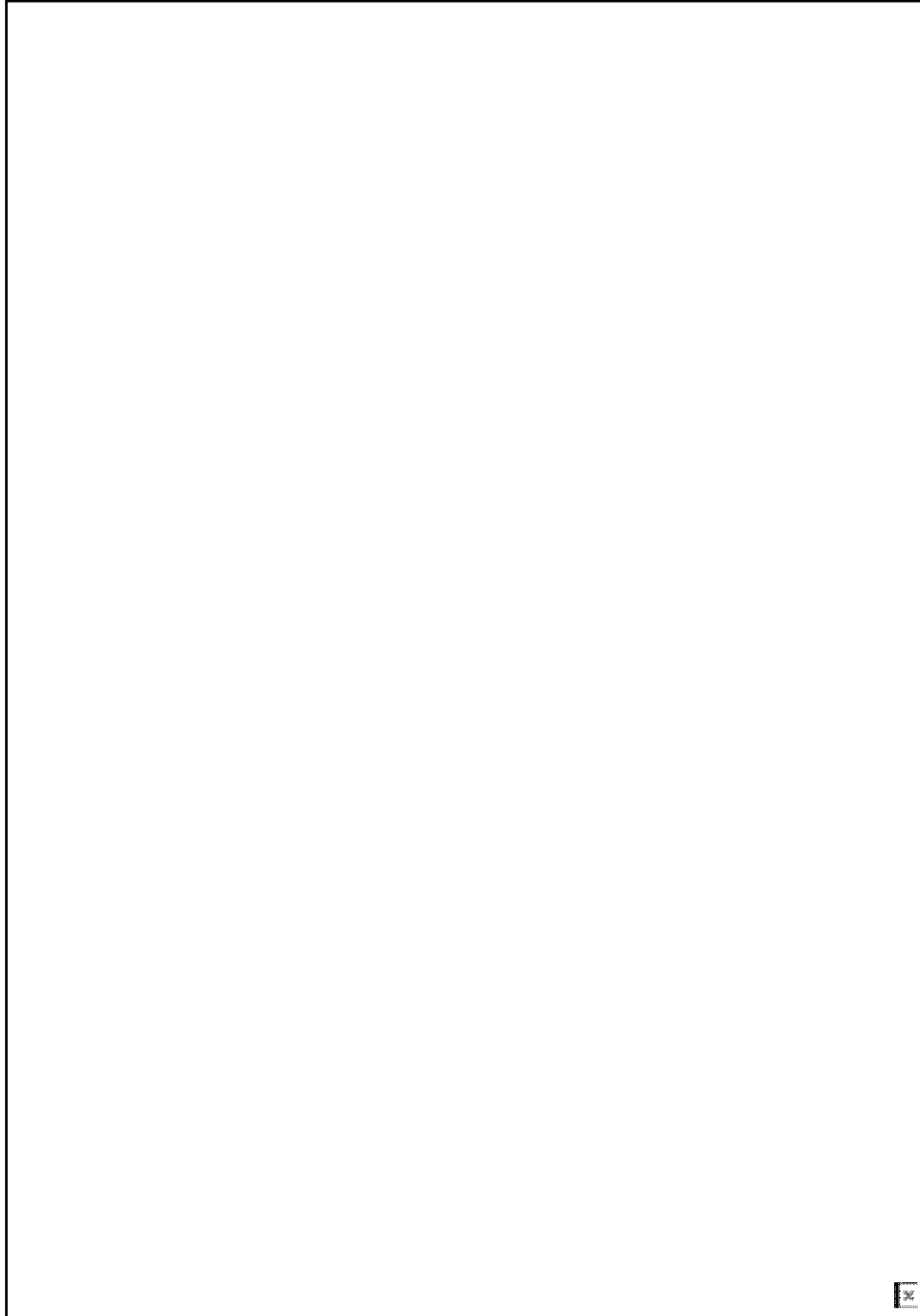
HICKAM FIELD, PRACTICE BOMB LOADING SHED
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Map-Close-up, Hickam AFB, Magazine Area (Portion of Project Location Plan Map-Inset,
Vicinity and Grading Plan, Building 4008, April, 1972)



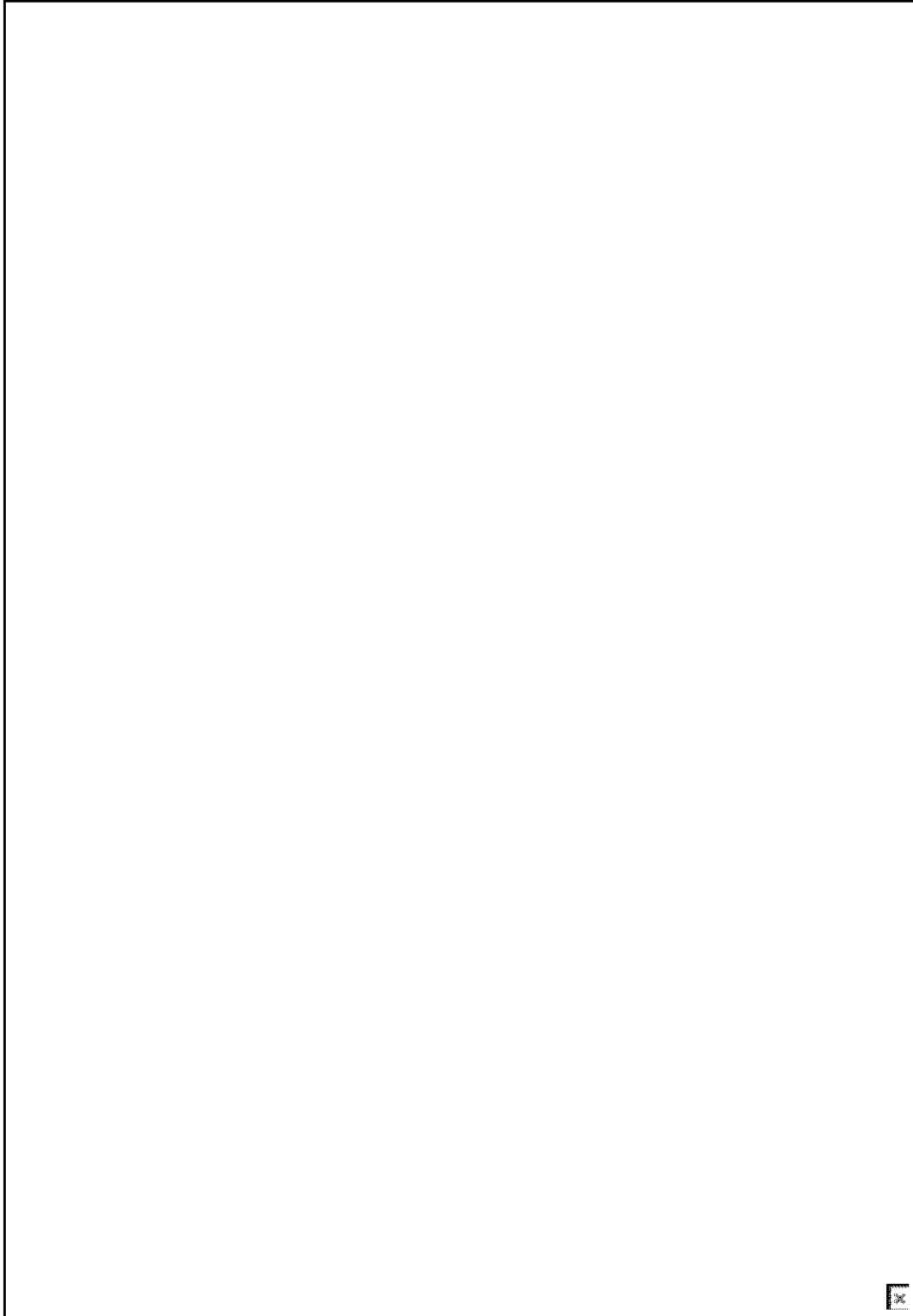
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Practice Bomb Loading Shed (Drawing No. 397-2813, 1 of 2 drawings, dated January 25, 1937)



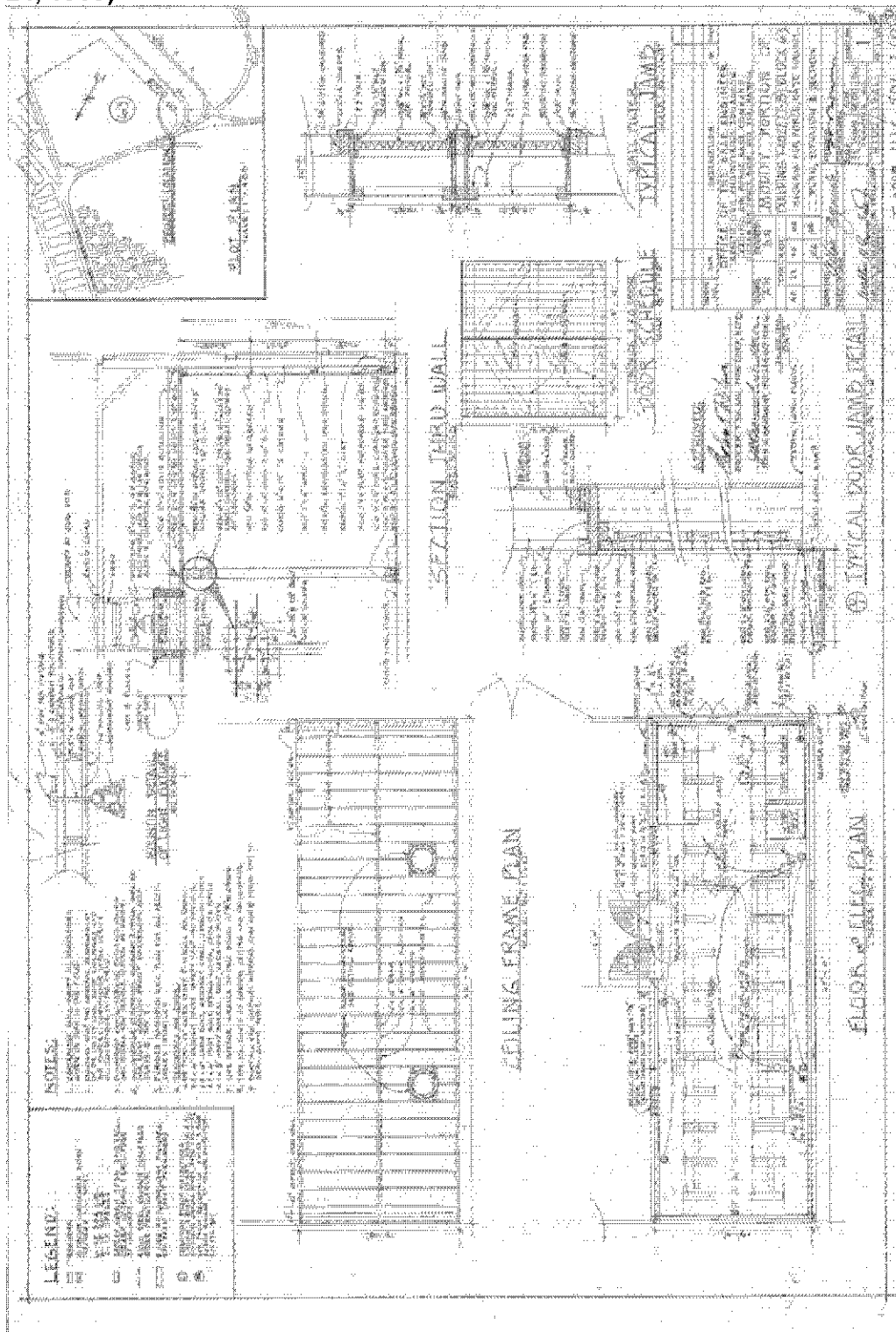
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Practice Bomb Loading Shed (Drawing No. 397-2814, 2 of 2 drawings, dated January 25, 1937)



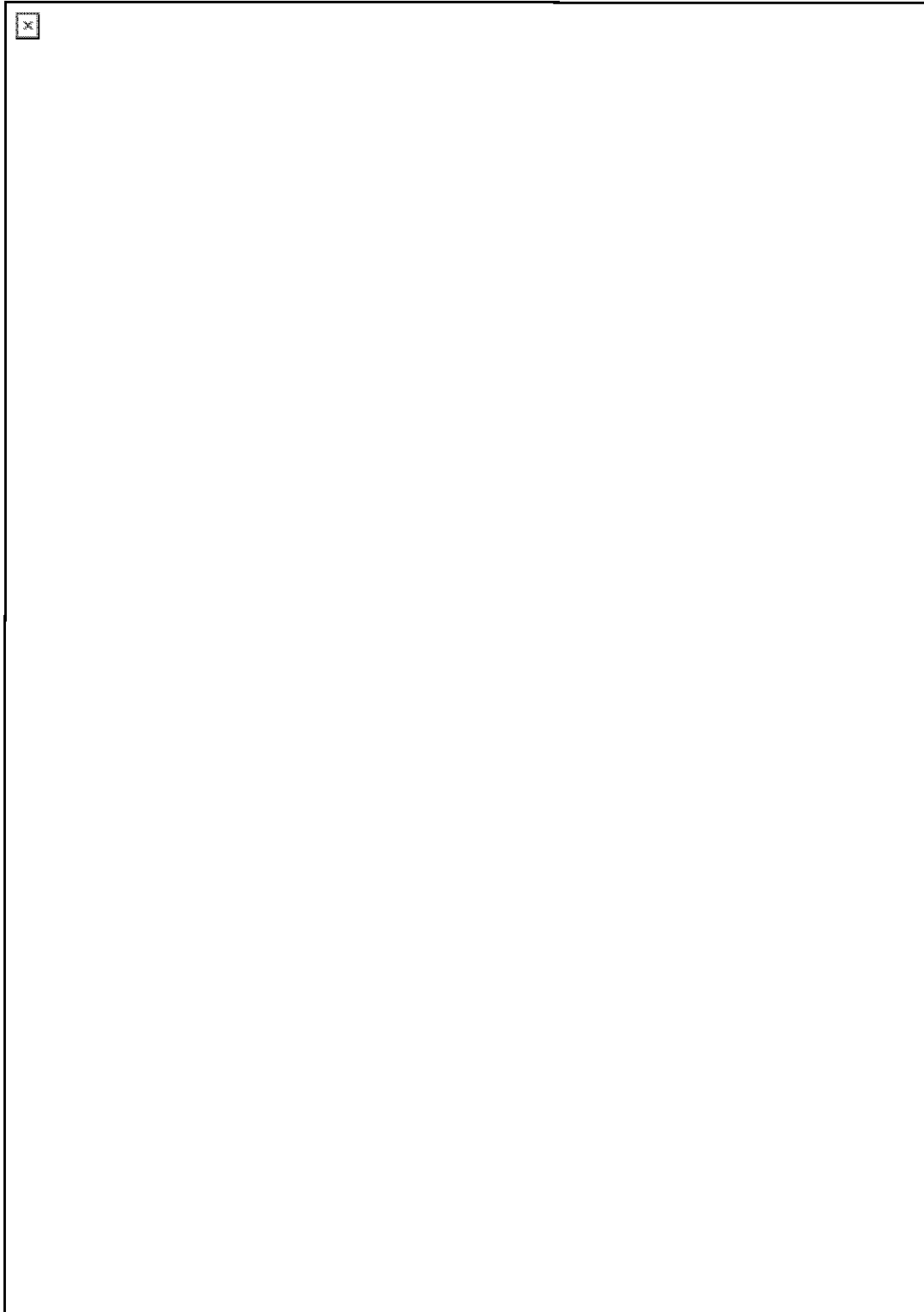
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Modify Portion of Building T-4027, (T-8) Block 63 (Drawing No. H100/1941, dated October 24, 1960)



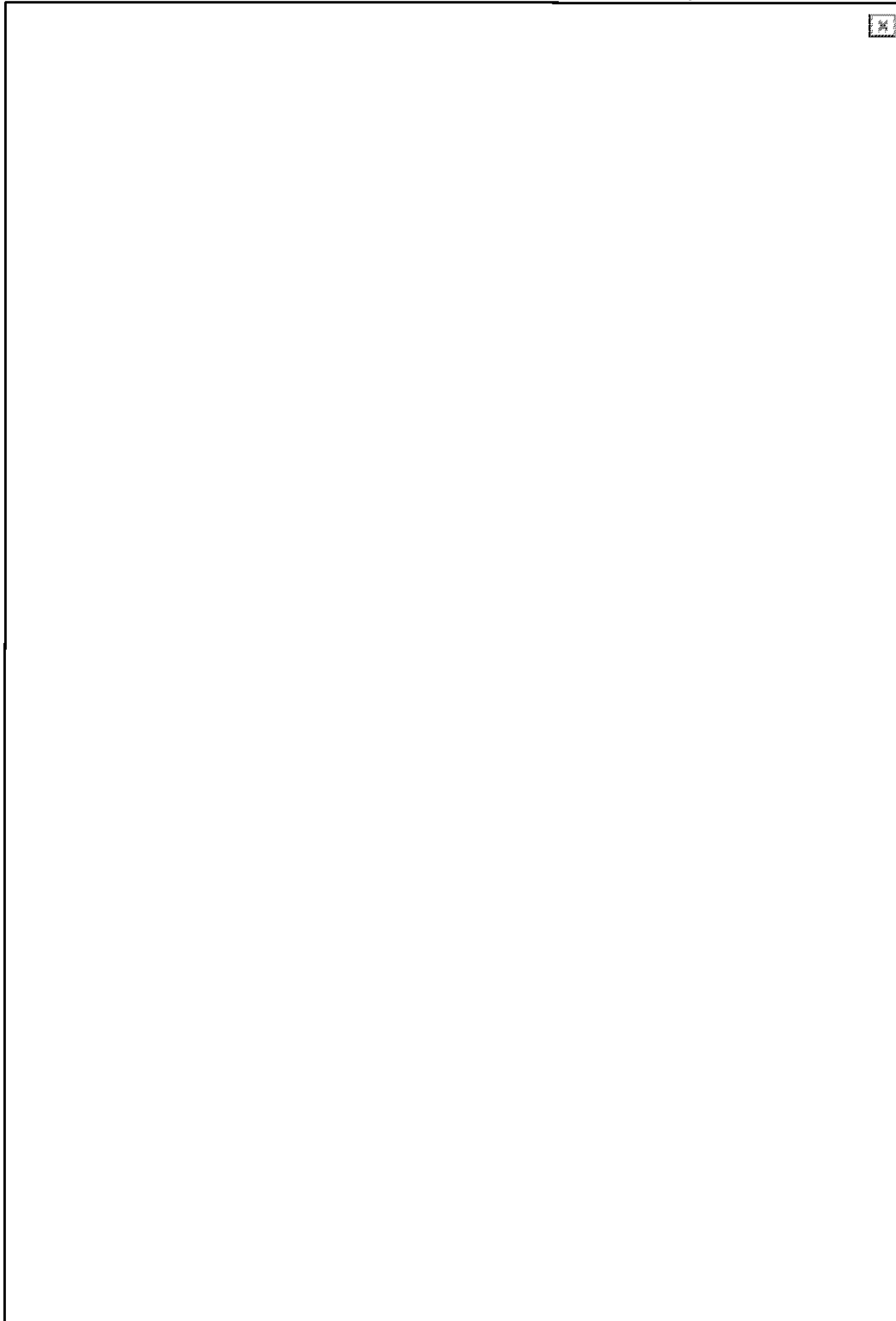
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Repair/Upgrade D/AACG Bldg, Building 4027 HAFB (1 of 4 drawings, dated April 25, 1993)



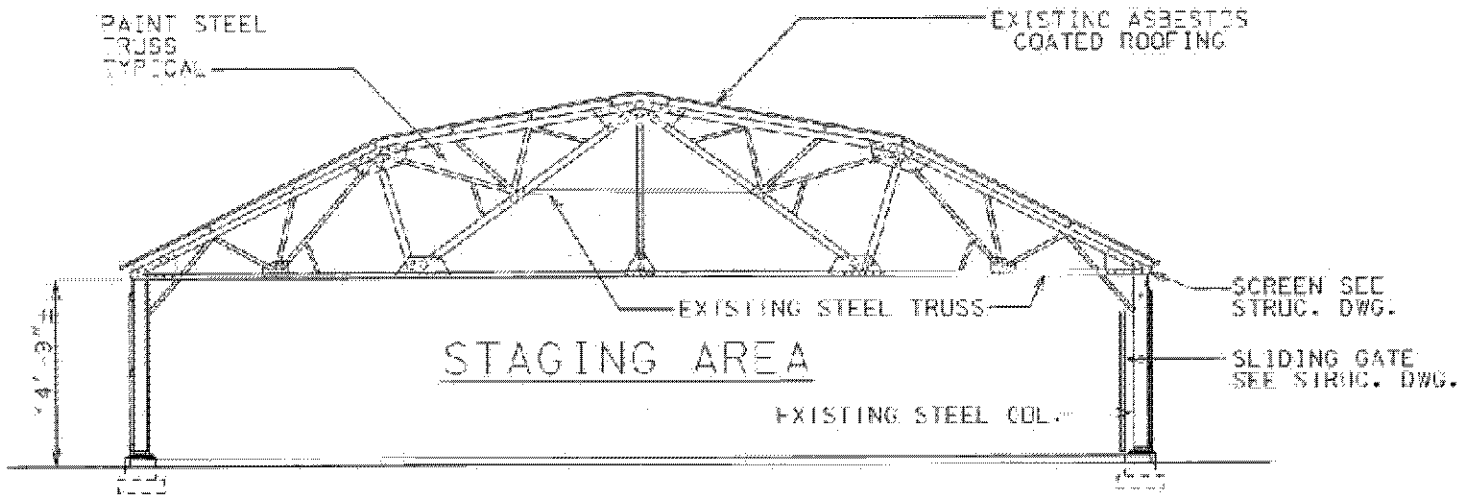
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JIA Lighting (for T-4027) (Drawing, dated August 21, 1996)



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Detail, Cross-Section of Howe Truss (Portion of Repair/Upgrade D/AACG Bldg, Building 4027 HAFB, 1 of 4 drawings, dated April 25, 1993)



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Detail, Cross-Section of Howe Truss (Portion of Drawing No. 397-2814, 2 of 2 drawings, dated January 25, 1937)

